

CERTIFYING OPERATORS OF SMALL WATER SYSTEMS-GETTING STARTED!

By Brian Rigwood

The 2001 Legislature enacted HB 2239, which repealed statutory exemptions from operator certification requirements that were originally enacted by the 1989 Legislature. The exemptions applied to operators of 900 community and nontransient noncommunity water systems serving fewer than 150 connections and using groundwater sources, and operators of water systems supervised by registered professional engineers. Eliminating the exemptions was necessary to meet new EPA guidelines for state operator certification programs, and to preserve full funding from EPA of the Drinking Water State Revolving Fund. Keeping the exemptions in place would have reduced the DWSRF allocation to Oregon communities by 20%, about \$2.75M per year! EPA approval of our certification program will give us access to EPA training and certification funds that are sufficient to cover the costs of the initial implementation effort for small water systems.

HB 2239 requires currently uncertified operators of community and nontransient noncommunity water systems serving fewer than 150 connections and using groundwater sources to become certified! There are no fees for this certification! These water suppliers recently received an application form and a copy of the temporary rules. We also posted the application and rules on our website (<http://www.ohd.hr.state.or.us/dwp>).

Initial certification can be accomplished in one of four ways:

- 1) “grandparenting” acceptance of current operators (we expect that most water suppliers will qualify for this option), **or**
- 2) attending the Department’s Water System Training Course (see the PIPELINE newsletter or our website for schedule), **or**
- 3) employing a currently certified operator (WD or WT), **or**
- 4) contracting with a currently certified operator

A workgroup met prior to the 2001 Legislature and fashioned a program design for operators of small water systems that constituent organizations supported in the legislative

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PROGRAM UPDATE

by Dave Leland

Department of Human Services Reorganization

You may have read about the reorganization of our Department, now well underway. In August, the Health Division was absorbed into a larger branch within the Department, now known as DHS-Health Services. The Health Services branch integrates the programs of the former Health Division, Office of Medical Assistance Programs, Alcohol and Drug Abuse Programs, and the mental health functions of the former Mental Health and Developmental Disability Services Division. DHS-Health Services is headed by Barry S. Kast, MSW, Assistant DHS Director. Mr. Kast was formerly the administrator of the Mental Health and Developmental Disability Services Division. The drinking water program is located in the Office of Public Health Systems of DHS-Health Services. **Our drinking water personnel, addresses, and phone numbers remain the same!**

Last Reminder on Chemical Monitoring!

The 1999-01 compliance period ends December 31, 2001! Be sure to get your inorganic and organic chemical and nitrate results in on time! Check out your current compliance status on our website, www.ohd.hr.state.or.us/dwp.

Drinking Water Staff Updates

- **Bonnie Waybright**, who carried out the drinking water program backflow effort for many years, recently accepted a position with the Washington Department of Health drinking water program, and we wish her well in her new assignment!

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INFRASTRUCTURE SECURITY

What Drinking Water Utilities Can Do Now to Guard Against Terrorist and Security Threats. U.S. Environmental Protection Agency, Office of Ground Water and Drinking Water, October 2001

One consequence of the events of September 11th is a heightened concern among citizens in the United States over the security of their drinking water supply. For the past few years the drinking water industry, in cooperation with the Environmental Protection Agency, has been working on projects to enhance security and protection. Many of these projects were under way prior to the attacks of Sept. 11 and, subsequently, are already completed or near completion. Through these efforts, water utilities have already taken many straightforward, commonsense actions to increase security and reduce threats from terrorism. Many of these actions are recommended by American Water Works Association, the Association of Metropolitan Water Agencies, and other leading professional organizations. The recommendations include:

Guarding Against Unplanned Physical Intrusion

- Lock all doors and set alarms at your office, drinking water well houses, treatment plants, and vaults, and make it a rule that doors are locked and alarms are set;
- Limit access to facilities and control access to water supply reservoirs, giving close scrutiny to visitors and contractors;
- Post guards at treatment plants, and post "Employee Only" signs in restricted areas;
- Control access to water supply reservoirs;
- Secure hatches, meter boxes, hydrants, manholes and other access points to the water distribution system;
- Increase lighting in parking lots, treatment bays, and other areas with limited staffing;
- Control access to computer networks and control systems, and change the passwords frequently;
- Do not leave keys in equipment or vehicles at any time.

Making Security a Priority For Employees

- Conduct background security checks on employees at hiring and periodically thereafter;
- Develop a security program with written plans and train employees frequently;
- Ensure all employees are aware of communications protocols with relevant law enforcement, public health, environmental protection, and emergency response organizations;
- Ensure that employees are fully aware of the importance of vigilance and the seriousness of breaches in security, and make note of unaccompanied strangers on site and immediately notify designated security officers or local law enforcement agencies;
- Consider varying the timing of operational procedures if possible so if someone is watching the pattern changes;
- Upon the dismissal of an employee, change passcodes and make sure keys and access cards are returned;
- Provide Customer Service staff with training and checklists of how to handle a threat if it is called in.

Coordinating Actions for Effective Emergency Response

- Review existing emergency response plans, and ensure they are current and relevant;
- Develop clear protocols and chains-of-command for reporting and responding to threats along with relevant emergency management, law enforcement, environmental, public health officials, consumers and the media. Practice the emergency protocols regularly;
- Ensure key utility personnel (both on and off duty) have access to crucial telephone numbers and contact information at all times. Keep the call list up to date;
- Develop close relationships with local law enforcement agencies, and make sure they know where critical assets are located. Request they add your facilities to their routine rounds;
- Report to county or State health officials any illness among the utility's customers that might be associated with water supplies;
- Report criminal threats, suspicious behavior, or attacks on water utilities immediately to law enforcement officials and the relevant field office of the Federal Bureau of Investigation.

Investing in Security and Infrastructure Improvements

- Assess the vulnerability of source water protection areas, drinking water treatment plants, distribution networks, and other key infrastructure elements;
- Move as quickly as possible with the most obvious and cost-effective physical improvements, such as tamper-proofing manhole covers, fire hydrants and valve boxes;
- Improve computer system and remote operational security;
- Seek financing for more expensive and comprehensive system improvements.

While water utilities are the key to improving security of our drinking water supplies, EPA, other Federal agencies, and both industry and managerial trade associations also provide help and support. EPA is working with AWWA and other groups to develop training courses and "train-the-trainer" materials for water utilities and State personnel on assessing vulnerabilities and improving security, which will begin soon. EPA is working collaboratively with the Association of Metropolitan Water Agencies and other groups to develop an Information Sharing and Analysis Center to bolster coordinated notification and response to threats and vulnerabilities. A number of technical projects are underway to assess the fate and transport of potential agents in water, increase security of critical water data, and other issues.

For more information please visit the following web sites:

EPA Counterterrorism: <http://www.epa.gov/ebspages/ecounterterrorism.html>

EPA Alert on Chemical Accident Prevention and Site Security: <http://www.epa.gov/ceppo/pubs/secale.pdf>

U.S. Centers for Disease Control & Prevention: <http://www.bt.cdc.gov>

Association of Metropolitan Water Agencies: <http://www.amwa.net/isac/amwacip.html>

American Water Works Association: <http://awwa.org>

National League of Cities: http://www.nlc.org/nlc_org/site/newsroom/terrorism_response

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session. The Drinking Water Program staff thanks the many people representing drinking water organizations who participated in the Operator Certification Workgroup (see list to the right).

Completing the legislative adoption process for HB 2239 took until July 2. This left the Department too little time to adopt permanent rules and meet the EPA deadline of September 30 to avoid the federal withholding of revolving loan funds! But, HB 2239 very fortunately contained an emergency clause that enabled the Department to meet its responsibilities by filing a temporary rule, good for a maximum of 180 days. We did that on August 1. We are currently developing the proposed permanent rules. While there are no public hearings on temporary rules, there will be hearings at five locations around the state on the permanent rules. Those hearings are scheduled for the last week of November:

11/26/01	9 am	800 NE Oregon St., Rm 120B, Portland
11/27/01	1 pm	223 A St., Rm F, Springfield
11/28/01	9 am	Jackson County Courthouse, 10 S. Oakdale, Medford
11/29/01	3 pm	Deschutes County Library, 601 NW Wall, Bend
11/30/01	1 pm	700 SE Emigrant, 1st fl. Conference Rm, Pendleton

After the initial certification effort, and after we secure the available EPA certification funding, we will contract to adapt existing training for operators of small water systems. We will then contract to make that training available to water system operators in frequent local workshops and also via the Internet, hopefully by fall, 2002. This training will cover basic and advanced Need-to-Know information specified by the Operator Certification Workgroup (see page 4).

In the end, we will collectively achieve an EPA- approved operator certification program, secure the EPA certification and training funds, preserve the full funding of the Drinking Water State Revolving Fund for Oregon communities, and get some good relevant and accessible training out to operators of small water systems statewide. Stay tuned!

Questions? Contact Brian Rigwood at (503) 731-4899.

Brian Rigwood is Certification Coordinator in the Monitoring & Compliance Unit of the Drinking Water Program / (503) 731-4899 or brian.m.rigwood@state.or.us

OPERATOR CERTIFICATION WORKGROUP

<u>Name</u>	<u>Organization</u>
Rick Partipilo	Linn Co. Health Department
Jason Green	Oregon Assoc. of Water Utilities
Todd Heidgerken	Tualatin Valley Water District, Special Districts Assoc. of Oregon
Brad Fudge	Manufactured Housing Communities of Oregon
Dan Bradley	South Fork Water Board, League of Oregon Cities
Emily Cedarleaf	Multifamily Housing Council of Oregon
Charlie Swan	Fischers Mobile Home Park, Nyssa, OR
Larry Owings	Molalla River School District
Jim McGowan	Greater Albany Public Schools
Jon Bagshaw	Salem-Keizer Schools
Wayne Hilterbrand	Manufactured Housing Communities of Oregon
Wayne Buck	Small Water System
Kathy Miller	Public Utilities Commission
Bill Chamberlain*	USEPA
Jerry Schmidt	Oregon Realtors Assoc.
Robert D. Benson (Commissioner/Secretary)	Riverside Water Dist.
Fred Wright	Corvallis School Dist.
Willie Tiffany	League of Oregon Cities
Peggy Seward	League of Oregon Cities

*Staff advisors

Very Small Water System Operator Need to Know Draft Criteria

BASIC

Public Health Protection / Contamination prevention

- ◆ Waterborne disease / related health risks/ microbials versus chemicals
- ◆ Basic responsibilities of water suppliers
- ◆ Knowledge of source protection / wellhead protection
- ◆ Ability to identify and correct significant deficiencies
- ◆ Ability to identify cross connections and resolve them.

Compliance/Regulatory (Administrative) duties

- ◆ Record keeping /ability to determine what information needs to be kept.
- ◆ Knowledge of facility operation and maintenance.
- ◆ Knowledge of monitoring and reporting requirements.
 - A) Public Notice (Monitoring and MCL violations)
 - B) Coliform sampling procedures (sampling plan / routine and repeat sites / action needed if sample is positive)
 - C) Consumer Confidence Reports (Required language / who gets one / mailing to residents)
 - D) Other useful standards: NSF / ANSI / AWWA

Operations

- ◆ Proper pipe repair/shock chlorination procedures
- ◆ Cleaning and maintenance of storage tanks
- ◆ Understanding of pressurized system
- ◆ Proper sampling techniques: Coliform / Lead & Copper / organics, radiologicals.

Water Quality

- ◆ Overview of water treatment methods
- ◆ Proper sampling techniques: Coliform / Lead & Copper / organics, radiologicals.
- ◆ Maximum contaminant levels, action levels, trigger levels for further testing
- ◆ Who to call for help (DHS/County HDs/ Organizations/ Tech Asst. contractors/ Labs)

ADVANCED - Treatment

- ◆ Disinfectant residual maintenance
- ◆ Ability to determine and adjust chemical feed rates
- ◆ Ability to adjust flow rates
- ◆ Ability to prepare chemical dilutions for feeding
- ◆ Ability to perform basic math
- ◆ Knowledge of acceptable chemical ranges
- ◆ Knowledge of proper storage, handling and application of chemicals
- ◆ Ability to maintain equipment: Cleaning /calibration / repair
- ◆ Corrosion Control / Disinfection / iron removal / nitrate removal
- ◆ Knowledge of normal water characteristics: relationships between pH, alkalinity, temperature
- ◆ Calibration of equipment: pH standards / DPD test kits
- ◆ Free chlorine residual /combined and total chlorine residual / dose / demand relationship

PROGRAM UPDATE *(continued from page 1)*

- Welcome to **Bill Goss**, who joined the drinking water program office in Pendleton as a public health engineer, and will be working directly with water suppliers in Eastern Oregon!
- Also note that Deschutes and Yamhill counties entered into contracts with the Department beginning in July, 2001. They will be providing regulatory oversight and assistance to groundwater systems serving under 3,300 people. This brings to 22 the total number of local health departments participating in the drinking water program!

Backflow Program Transfer and Transition

As part of the reorganization discussed above, the backflow program was recently relocated from drinking water to the Facilities Planning and Safety Section, located in the Office of Health Planning and Community Services of DHS-Health Services. Headed by Roscoe Lawless, a registered architect, the section currently performs plan review for hospital facilities, including plumbing and piping systems. Mr. Lawless can be reached in Salem at (503) 373-7201.

The backflow program attracted attention during the 2001 Legislative session. At issue are differences in opinion among backflow constituency groups over the scale and scope of the state program and rules, the delineation of authorities between the drinking water rules and the state Plumbing Code, the uniformity and consistency of tester and inspector training, and differences in programs and practices among local water purveyors. The Department agreed to convene a workgroup of the constituency organizations this fall to tackle these issues and identify and propose agreeable solutions. Rule changes and/or statutory changes will be pursued as necessary to implement workgroup recommendations. In the meantime, we will be implementing the relocation of backflow program functions to the Facilities Planning and Safety Section over the next several months. We will do our best to attend to high priority tasks during the transition, such as processing tester and inspector certifications and renewals, so bear with us!

Drought Conditions

Drinking water program staff participated in meetings of the state Drought Council throughout this year's drought period. While the drought is by no means over, we are getting ever closer to the inevitable fall rains. However, available climatic indicators do not point strongly toward

a reliable prediction of precipitation amounts for the fall/winter season. So, we wait and see. Fire danger is still high in some areas. Streamflows and reservoir levels are very low (see photographs). To date, 18 counties have declared drought emergencies, primarily around impacts on agriculture. We heard of few drought-related problems with Oregon public water systems, and we thank those water suppliers who responded to the questionnaire published in the summer PIPELINE. See the Water Resources Department website for more information on the drought (www.wrd.state.or.us/drought_watch/index.shtml).



During late August, the level of Detroit lake was remarkably low. Compare the level of the Breitenbush River with the water mark on the HWY 22 bridge at Detroit!

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AVAILABILITY OF SRF FUNDS FOR DRINKING WATER PROTECTION

by Dennis Nelson

Even with the data provided by the Source Water Assessments, communities may still need financial assistance in order to develop a drinking water protection plan. The Oregon Drinking Water Program's Advisory Committee recognized the value of protection of the resource and allocated funds from the State Revolving Loan Fund for use in developing drinking water protection plans. Funds are available to all community water systems and non-profit nontransient noncommunity water systems. To be eligible for loan funds, the water system must have their drinking water source delineated and must demonstrate a relation between the proposed project and the improvement or preservation of the system's drinking water quality.

Examples of eligible projects:

- A program to properly abandon wells within sensitive areas in the drinking water protection area (DWPA).
- The reconstruction of a public water supply well to enhance natural protection of the drinking water supply.
- Implementation of erosion control practices within a watershed.
- Purchasing of land or land easements within a sensitive area of the DWPA.
- Refinement of the delineation, inventory or sensitivity analysis of the DWPA.
- Development of a pollution prevention technical assistance program for local businesses.
- Establishment of a household hazardous waste collection program.
- Public notification of the DWPA, e.g., signs, information brochures.
- Outreach Activities directed at the general public, e.g., periodic news releases, information boards and displays, public forums, etc., or schools, e.g., curriculum-targeted information regarding protecting water, etc.
- Activities designed to enhance or improve riparian areas along stream ways.
- Practices designed to reduce the potential impact of storm water on surface water and groundwater.
- Costs associated with the development of local ordinances.
- Costs associated with the development of local partnerships to protect drinking water.
- Monitoring associated with the evaluation of a particular protection activity, e.g., monitoring nitrate loss across the root zone as a function of agricultural practices.

Activities that are not eligible include operation and maintenance, routine monitoring costs, development of an additional source, cost of new or modified treatment, etc.

Loan amounts are limited to \$100,000. Projects, as described in the submitted Letter of Interest, are ranked the following general criteria:

- Where the project is located relative to the well or intake and with respect to sensitive areas in the drinking water protection area,
- The risk reduction potential of the project,
- The number and locations of high to moderate risk potential contaminant sources within the designated drinking water protection area,
- Local community interest in protecting drinking water, and
- Whether or not a contaminant has been detected and at what level.

The availability of loan fund dollars for prevention provides water systems with an unprecedented opportunity to protect their resource and their customers from future contamination problems. Application to the drinking water protection loan fund is accomplished through the "Letter of Interest" procedure described in the main article. Questions regarding the Letter of Interest should be directed to Dave Phelps at (503) 731-4010.

Dennis Nelson is Groundwater Coordinator in the Protection & Development Unit of the Drinking Water Program / (541) 726-2587 or donelson@oregonvos.net

PROGRAM UPDATE (continued from page 5)

Technical Assistance Provider Starts Work

Poage Engineering and Surveying, Inc., of Eugene, is now under contract to the Department to provide technical assistance to water suppliers with groundwater sources that serve fewer than 10,000 people. Tom Poage and his staff are very experienced in the drinking water field, and have been in business since 1974. Poage Engineering is partnered with Anderson-Perry Engineering of LaGrande to provide a broad range of services to the entire state. These services are provided at no cost to the water supplier, and the contractor can assist with short-term operational problems and provide resolution plans for compliance problems. Contact the firm directly at (541) 485-4505 or on the Internet through their website at www.poage.net to request a technical assistance visit. Or, link to Poage Engineering from the drinking water program website!

Dave Leland, PE, is Manager of the Drinking Water Program / (503) 731-4010 or david.e.leland@state.or.us

SOURCE WATER ASSESSMENT/DRINKING WATER PROTECTION HIGHLIGHTS

by Dennis Nelson

- The 1996 Amendments to the Safe Drinking Water Act directed states to provide the water systems with necessary information to develop drinking water protection plans (see Summer 1998 PIPELINE).
- Source Water Assessments consist of three components: (1) identification (delineation) of drinking water protection area (DWPA), i.e., the land surface that contributes water to the drinking water source, i.e., the wellhead protection area for wells and springs and the watershed for surface water intakes, (2) an inventory of potential contaminant sources (PCSs) within the DWPA, and (3) an estimate of the susceptibility of the drinking water to those PCSs.
- The susceptibility analysis includes land use activities, watershed characteristics, aquifer characteristics, monitoring history, soils, well construction, etc., and identifies areas of highest risk within the drinking water protection area.
- DEQ and OHD are cooperating to conduct Source Water Assessments for all 816 community, 340 nontransient noncommunity and 1452 transient noncommunity groundwater and surface water systems in Oregon.
- As of October 1, 2001, OHD and DEQ have completed delineations for 468 community systems, 170 nontransient noncommunity systems and 440 transient noncommunity systems.
- Potential contaminant inventories have been completed for 300 community systems, 128 nontransient noncommunity systems and 440 transient noncommunity systems.
- Susceptibility analysis and final reports have been issued for 68 community systems, 15 nontransient noncommunity systems and 364 transient noncommunity systems.
- Source Water Assessments will be initiated on all community and nontransient noncommunity water systems by 12/31/02.
- Oregon's term "Drinking Water Protection" is synonymous with EPA's term "Source Water Protection". The Wellhead Protection Program, established by the 1986 Amendments to the Safe Drinking Water Act, and addresses only groundwater systems, has been incorporated into the broader Drinking Water Protection Program which addresses both groundwater and surface water systems.
- Developing a drinking water protection plan in Oregon is voluntary. State agencies are available for technical assistance (Surface Water Systems contact Sheree Stewart at (503) 229-5413; groundwater systems contact Julie Harvey at (503) 229-5664 or Dennis Nelson at (541) 726-2587).
- Management strategies for protecting drinking water are designed to **reduce** the risk to drinking water and vary from public education and outreach to the development of ordinances.
- Which management strategy a water system uses is decided solely by a **local** committee; plans are tailored to fit the needs and resources of the area.
- State-certified drinking water protection plans have been completed by Coburg, Junction City, Powell Valley Road Water District, Rogue Lea Estates, Springfield Utility Board, Rainbow Water District, Rainbow Park Mobile Home Park, Maupin and Veneta. Many other communities are in various stages of plan development.
- Water systems with state-certified drinking water protection plans are eligible for a SOC/VOC monitoring reduction.
- Water systems with a state-certified drinking water protection plan receive bonus points when applying for a SRF capital improvement loan.
- State revolving loan funds are available for implementing drinking water protection plans (see accompanying article, page 6).

Additional information regarding Source Water Assessments and Drinking Water Protection are available in the following PIPELINE issues: Summer 1998, Winter 2000 and Winter 2001 and on agency websites:

DEQ: <http://waterquality.deq.state.or.us/wq/dwp/dwphome.htm> which includes examples of drinking water protection plans.

OHD: www.ohd.hd.state.or.us/dwp/swp.htm which includes lists of completed assessments.

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TRAINING CALENDAR

Cross Connection/Backflow Courses

Backflow Management Inc. (B)
 (503) 255-1619
 Clackamas Community College (C)
 (503) 657-6958 ext. 2388

Backflow Assembly Tester Course
 Dec. 10-14 Oregon City (C)
 Feb.25-Mar.1 Portland (B)

Backflow Assembly Tester Recertification
 Dec. 7 Oregon City (C)

Cross Connection Inspector Course
 Nov. 13-16 Oregon City (C)
 Nov. 26-29 Portland (B)
 Dec. 3-6 Redmond (B)
 Feb. 11-14 Corvallis (C)
 Feb. 11-14 Portland (B)

Cross Connection Inspector Update
 Nov. 17 Oregon City (C)

Water System Training Course

Department of Human Services
 Marsha Fox/(503) 731-4899
 Nov. 7 Tillamook
 Nov. 15 St. Helens
 Dec.* Pendleton

**Dates and exact locations to be announced*

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